Request to Archive
With The National Centers for Environmental Information
For Mean Layer Temperature - UCAR (Lower Strat)
Provided by UCAR COSMIC

2015-07-21

This information will be used by NCEI to conduct an appraisal and make a decision on the request.

1. Who is the primary point of contact for this request?

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2. Name the organization or group responsible for creating the dataset.

UCAR COSMIC

3. Provide an overview summarizing the scope of data you want to archive. Describe the outputs, data variables, including their measurement resolution and coverage.

Monthly averages over a 34-year period from 1980 through December 2014 from the combined contributions of AMSU/MSU measurements from NOAA, NASA, and MetOp-A polar orbiters are calculated on a 2.5 degree x 2.5 degree grid.

1) TLS monthly climatology (K) in 2.5x2.5 grid
2) Monthly mean TLS (K) in 2.5x2.5 grid
3) monthly mean TLS anomalies (in K) in 2.5x2.5 grid

4. What is the time period covered by the dataset? (YYYY-MM-DD, YYYY-MM or YYYY)

From 1980-01-01 to 2014-12-31

5. Edition or version number(s) of the dataset:

V2

6. Approximate date when the dataset was or will be released to the public:

2015-10

7. Who are the expected users of the archived data? How will the archived data be used?

Researchers from climate community and modelers.
For the CDR and pre-CDR data (RO data), we have
2703 registered users from 74 countries.

The near 33 years of consistently calibrated AMSU/MSU mean temperature in the lower stratosphere data record form multiple satellites provide a unique long-term climate measurement, which should be valuable for assessment and validation of TLS from climate models, other satellite data (i.e., microwave imager sounders), and in situ measurements.

8. Has the dataset undergone user evaluation and/or an independent review process? Did NCEI participate in design reviews?
No

9. Describe the dataset's relationship to other archived datasets, such as earlier versions or related source data. If this is a new version, how does it improve upon the previous version(s)?
Previous version is from 2001 to 2013 where only AMSU data were used.
The current version is from 1980 to 2014 where the MSU processing codes that are developed for processing the data from MSU time period are included.
The time period of the CDR, the consistency between MSU and AMUS data, where the trend developed using the new processes shall be more useful for the science community.

10. List the input datasets and ancillary information used to produce the data.
Primary data sets:
1) Level 1B AMSU data from NOAA 15, 16, 18, and 19, and from METOP/A, and MSU data from TIROS, NOAA6, 7, 8, 9, 10, 11, 12, 14 are used. For each orbiter, AMSU channel 9 and MSU channel 4 radiance, latitude, longitude, time, and scan angle values are input into the algorithm. The MSU and AMSU level 1B data for NOAA and METOP orbiters are available from the NOAA website http://www.class.noaa.gov/nsaa/products/welcome.
2) RO data : From CDACC VERSION 2010.2640 data, dry temperature and water vapor profiles are obtained from ATM and WET data respectively.

3) The MERRA reanalysis data are read and interpolated to 100 pressure levels. The MERRA data are available in the nasa website (ftp://goldsmr3.sci.gsfc.nasa.gov:/data/s4pa/MERRA/MAI3CPASM.5.2.0/)

No ancillary data are used.

11. List web pages and other links that provide information on the data.
The algorithm development document (C-ATBD), data flow diagram,
and maturity matrix for both AMSU ch7 datasets and AMSU ch9 data sets are restored under

http://www.ncdc.noaa.gov/cdr/operationalcdrs.html

The meta data (i.e., C-ATBD) are created by following NCDC C-ATBD template.
The maturity matrix is also provided by NCDC where UCAR COSMIC use this maturity matrix to mark the maturity levels for the currently delivered datasets.

12. List the kinds of documents, metadata and code that are available for archiving. For example, data format specifications, user guides, algorithm documentation, metadata compliant with a standard such as ISO 19115, source code, platform/instrument metadata, data/process flow diagrams, etc.
1. C-ATBD for ch9 dataset.

13. Indicate the data file format(s).
1. netCDF-4

14. Are the data files compressed?
No

15. Provide details on how the files are named and how they are organized (e.g., file_name_pattern_YYYYMM.tar in monthly aggregations).

There are three types of files and they are following the filename pattern:
<ShortName>_<FileType>_<Version>_s<BeginDa teTime>_e<EndDateTime>_c<CreateDateTime>.< Ext>
The details are described in the "Data submission agreement"

File Name Field Definitions are :

<ShortName>
"AMSU-CH7-RO-CAL-BT-CDR" = identifies the
file as AMSU channel 7 RO calibrated
brightness temperature <FileType>
"MON" - indicates file contains CDR quality monthly netCDF files
"ANOM" - indicates file contains CDR quality anomaly netCDF files
"CLIM" - indicates file contains CDR quality
climatology netCDF files <Version>
Version of file; starting at "V01R00", current
version is "V01R01" s<BeginDate>
begin date of data within file; format
"sYYYYMM" e<EndDate>
end date of data within file; format "eYYYYMM" c<CreateDateTime>
create date of tar file; format "cYYYYMMDD" <Ext>
file extension of file; static: "nc"

16. Explain how to access sample data files and/or a file listing for previewing. If it is not available now, when will it be available?

AMSU-CH9-RO-CAL-BT- CDR_V01R01_MON_s200105_e200112_c20130826.nc
AMSU-CH9-RO-CAL-BT- CDR_V01R01_ANOM_s201201_e201212_c20130826.nc
AMSU-CH9-RO-CAL-BT- CDR_V01R01_CLIM_s200105_e201212_c20130826.nc

17. What is the total data volume to be submitted?

Historic Data: all historic data or data submitted as a completed collection.

Total Data Volume:	13MB
Number of Data Files:	33

Continuous Data: data volume rate for a continuous data production.

Total Data Volume Rate:	2.4MB per Year
Data File Frequency:	8 per Year
Data Production Start:	1980-01-01

18. Are later updates, revisions or replacement files anticipated? If so, explain the conditions for submitting these additional data to the archive.

No additional updates, revisions or replacement data are anticipated.

19. Describe the server that will connect to the ingest server at NCEI for submitting the data.

Physical Location:	boulder CO USA
System Name:	ftp.cosmic

System Owner: UCAR COSMIC team
Additional Information:

20. What are the possible methods for submitting the data to NCEI? Select all that apply.
1. FTP PULL

21. Identify how you would like NCEI to distribute the data. Web access support depends on the resources available for the dataset.
1. Unknown

22. Will there be any distribution, usage, or other restrictions that apply to the data in the archive?
No known constraints apply to the data.

23. Discuss the rationale for archiving the dataset and the anticipated benefits. Mention any risks associated with not archiving the dataset at NCEI.
Under the agreement NOAA GRANT NA07OAR4310224 that NCAR will deliver the amsu ch7 and ch9 data to NCDC. These data sets will be used to estimate temperature trend due to global warming which has significantly social impacts. These data sets will also help climate modelers to improve their models and would help devision makers to make proper decisions for climate mitigation etc.

24. Are the data archived at another facility or are there plans to do so? Please explain.
No

25. Is there an existing agreement or requirement driving this request to archive? Have you already contacted someone at NCEI?
This falls under the CDR Program

26. Do you have a data management plan for your data?
No

27. Have funds been allocated to archive the data at NCEI?
No

28. Identify the affiliated research project, its sponsor, and any project/grant ID as applicable.
This falls under the CDR Program.
This is supported under NOAA GRANT NA07OAR4310224.

29. Is there a desired deadline for NCEI to archive and provide access to the data?
Archive by: 2015-10
Accessible by:

30. Add any other pertinent information for this request.
None